Centurion Investment Management LLC

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| General Information | | | | | |
| FIRM | Centurion Investment Management LLC  \*Not SEC registered\* | | | Firm Founded | April 2012 |
| Strategy Inception | August 2012 |
| ADDRESS | Wisconsin office:  200 South Executive Drive, Suite 101  Brookfield, WI 53005  New York office:  590 Madison Ave, 34th Floor  New York, NY 10022 | | | | |
| Summary | | | | | |
| Investment Strategy | | | Centurion’s short term trading program is 100% systematic and executes trades using momentum and mean reversion models with holding periods ranging from a few hours to 2 days and averaging 6 hours. The program trades 24 hours a day in 52 futures markets across all major market sectors; global currencies, commodities, global interest rates and global equity indices. | | |
| Investment Thesis | | | The strategy appears to be an attractive option for the managed futures UFT with an experienced team in the short term trading space and a solid though relatively short track record with attractive risk adjusted returns and limited drawdowns thus far. Centurion has demonstrated a dedication to research and shown the ability to improve existing while creating new models, allowing the program to evolve with changing market environments and avoid stagnation. | | |
| Reference Strategy | | | Centurion Short Term Trading Fund Ltd. Class B (2x) | | |
| Expected/Target Return | | | 10% for a HAMF managed account, 12% for the reference strategy | | |
| Expected/Target Vol | | | 10% for a HAMF managed account, 12% for the reference strategy | | |
| Strengths | | | CIO is an experienced short term trader, several members of the trading team were trained by the CIO at his previous firm, the team has a robust research process which includes constant feedback from the traders, large team relative to firm’s AUM, business stability with a meaningful and growing asset base, solid infrastructure with proprietary research and trading systems | | |
| Weaknesses | | | Short track record, strategy has not been tested at higher AUM levels | | |
| Good/Bad Environment | | | Good: The program is expected to perform best when short term volatility is expanding.  Bad: The program should perform worst when volatility is low and stays low, as false breakouts and reversals become more likely. | | |
| Peer Group | | | Managed Futures | | |
| Portfolio Fit | | | An allocation to Centurion could provide diversification within the managed futures strategy through a dedicated short term trading specialist focusing on holding periods less than 2 days. | | |
| Sizing Considerations | | | No current size limitations, but capacity reserved for HAMF may limit the allocation as the managed futures strategy grows over time. | | |
| Capacity | | | Capacity for the strategy is estimated to be $750 million. The CIO expects to soft close the strategy around $350 million or $400 million to evaluate trading execution and slippage.  Centurion has agreed to $50 million in capacity for HAMF. | | |
| Meeting Log | | | Source: Jefferies Bache, May 2014, Tom Riegert    Intro call: 6/16/2014, Umran Zia, Tom Riegert  Follow-up call: 8/14/2014, Stefan Behling, Umran Zia, Tom Riegert  Onsite: 9/23/14, Stefan Behling, Umran Zia, Ty Powers, Tom Riegert  Onsite: 10/21/14, Stefan Behling, Umran Zia, Michael Hennen, Tom Riegert | | |
| *IC Concerns* | | | While there is key man and small business risk we believe it is somewhat mitigated by the systematic nature of the strategy and the co-founders’ financial commitments to the firm. Stefan Behling and Umran Zia appear committed to growing the strategy and business over the long-term. | | |
| Business | | | | | |
| Team | | | Centurion has 10 full time employees and 2 consultants in the following areas:  Investment Management and Trading: 5 (including one consultant)  Research and Software Development: 6 (including one consultant)  Marketing and Business Development: 1  Employee turnover since inception includes Jason Frederick (Trader). | | |
| Stefan Behling, Managing Partner & Chief Investment Officer | | | Mr. Behling, age 42, co-founded Centurion Investment Management in April of 2012 and is the firm’s Chief Investment Officer. Prior to co-founding Centurion, Mr. Behling was the Head of Global Trading at Crabel Capital Management (CCM) from 1997 to 2009. During his tenure with Crabel, Mr. Behling was a member of the Firm’s Executive, Operating, and Research Committees. He oversaw trading activities in over 120 global futures and foreign exchange markets, as well as trading in specific US and international equities. Mr. Behling managed a team of 24 traders and maintained CCM’s trading models. In addition, Mr. Behling managed CCM’s prime brokerage and counterparty relationships. Mr. Behling is a graduate of Indiana University at Bloomington. | | |
| Umran Zia, Managing Partner & Chief Executive Officer | | | Mr. Zia, age 44, co-founded Centurion Investment Management in April of 2012 and is the firm’s Chief Executive Officer. Prior to co-founding Centurion, Mr. Zia was Managing Director and head of the Global Foreign Exchange Prime Brokerage business at Bank of America/Merrill Lynch (BAML) from 2000 to 2010. The FX PB business at BAML generated $250m in annual revenues for the Firm, and was sole prime broker to more than 240 funds. Mr. Zia oversaw a team of 25 professionals, and was a member of BAML’s FX Operating and Executive Committees. Previous to BAML, Mr. Zia built out and expanded FX PB businesses at ABN-Amro and Barclays Bank. Mr. Zia is a graduate of the State University of New York Albany. | | |
| William Tiedt, Global Head of Trading | | | Mr. Tiedt, age 43, is Centurion’s Global Head of Trading and joined the firm in May 2012. Prior to joining Centurion, Mr. Tiedt was a branch manager at Associated Bank. Mr. Tiedt was a Senior Trader and Equity desk manager at Crabel Capital Management from 1999 to 2009. Mr. Tiedt is a graduate of the University of Wisconsin-Whitewater. | | |
| Jon Kneeland, Senior trader | | | Mr. Kneeland, age 43, is a Senior Trader at Centurion Investment Management and joined the firm in May 2012. Prior to joining Centurion, Mr. Kneeland was a Senior execution trader at Midtown Capital from 2004 to 2011 and an independent trader at Momentum Securities (a joint venture with Crabel Capital Management) from 2002 to 2003. Mr. Kneeland is a graduate of the University of Wisconsin-Whitewater. | | |
| Daniel Raddemann, trader | | | Mr. Raddemann, age 38, is a Trader at Centurion Investment Management and joined the firm in November 2013. Prior to joining Centurion, Mr. Raddemann held roles at Robert W. Baird from 2012 to 2013 and Thomson Reuters from 2009 to 2012. Mr. Raddemann was a Trader at Crabel Capital Management from 2003 to 2009. Mr. Raddemann is a graduate of the University of Wisconsin-La Crosse. | | |
| Joshua Bade, Junior trader | | | Mr. Bade, age 25, is a Junior Trader at Centurion Investment Management and joined the firm in August 2014. Prior to joining Centurion, Mr. Bade was a mutual fund specialist at US Bank from 2011 to 2012. Mr. Bade holds a B.A. degree from the University of Wisconsin-Milwaukee and received the M.Sc. in Investment Risk & Finance from the University of Westminster in London, England. | | |
| Dan Goral, Research Analyst | | | Mr. Goral, age 26, is a Research Analyst at Centurion Investment Management and joined the firm in November 2013. Mr. Goral previously held roles with Corvisa from 2012 to 2013, BlackEdge Capital during 2012, and Honeywell Technology Solutions from 2010 to 2011. Mr. Goral is a graduate of the Milwaukee School of Engineering. | | |
| Darian Bailey, Research Analyst | | | Mr. Bailey, age 22, is a Research Analyst at Centurion Investment Management and joined the firm in July 2014. Mr. Bailey is a graduate of the University of Chicago. | | |
| Kalyani Josyula, Lead Software Developer | | | Ms. Josyula, age 39, is the Lead Software Developer at Centurion Investment Management and has been with the firm since its inception. Previously, Ms. Josyula was a Software Engineer at Bank of America from 2008 to 2010, the Lead Software Engineer at Films Media Group from 2006 to 2007, and a Software Developer at Merrill Lynch from 2002 to 2006. Ms. Josyula holds a B.S. in Computer Science and the M.Sc. in Computer Science from Nagarjuna University in Guntur Area, India. | | |
| Paul McHale, Senior trade support Specialist | | | Mr. McHale, age 46, is a Senior Trade Support Specialist at Centurion Investment Management and has been with the firm since February 2013. Previously, Mr. McHale held Senior Settlements Specialists roles at Jefferies Bache and R.J. O’Brien. Mr. McHale is a graduate of St. John’s University. | | |
| Ownership and Compensation | | | Umran Zia and Stefan Behling are equal partners and own 100% interest in Centurion.  Centurion was seeded with $10mm in 2012 and agreed to an arrangement that included a top-line revenue share. Within the first year the seed investor redeemed and lost their economics in the firm as the arrangement required them to invest for over one year.  Centurion’s employees are compensated through a combination of fixed salary and discretionary bonus. Bonuses are based off of team and strategy performance rather than individual contributions. Revenue sharing agreements are in place for Bill Tiedt, Jon Kneeland and Kalyani Josyula. | | |
| Business Experience | | | Centurion’s CIO has over a decade of experience trading systematic investment programs. In addition, the CEO has over a decade of experience in trading operations and management.  Centurion does not have experience managing 1940 act assets. | | |
| Reference Checks | | | **Ranjan Bhaduri - 10/24/2014**  Mr. Bhaduri is the Chief Research Officer for Sigma Analysis & Management. Bhaduri has not conducted due diligence on Centurion, but has overall heard good things about them from his peers and has noted their success in raising assets during a challenging time for the industry. One area he recommended to inquire about was Centurion’s relationship with Jason Leupold, an ex-Crabel employee who worked with Centurion in some capacity early on but apparently had a falling out with the Centurion team. The concern would be the potential for an intellectual property lawsuit. Mr. Leupold now runs his own short term trading strategy out of Denver, CO.  **Jasper Chua - 10/24/2014**  Mr. Chua is the Americas Head of FX Prime Brokerage at Newedge and worked for Umran Zia at BAML. Zia is someone that Chua looks up to as a business person and he considers Zia a mentor. He said that the FX prime brokerage business at BAML flourished under Zia’s lead and that Zia became one of the youngest Managing Directors within the company. Chua said that Zia always took care of his employees, which grew to 15 people at one point, and that everyone on the team loved working for him as evidenced by the lack of turnover during his tenure. He recalled that Zia was offered the higher status Head of Equity prime brokerage position prior to leaving the firm, and while he was not certain why he left BAML he always saw Zia as an entrepreneur not a banker.  Chua noted that Zia has a methodical, but “non-conforming” process and takes a different angle than other people he has worked with over the years. He characterized Zia as charismatic, which can be a double-edged sword. He added that some of Zia’s peers didn’t like him because he wasn’t afraid to be straight forward and wasn’t always diplomatic, still Zia was well respected within the firm and clients always loved him.  **John Fidler – 10/24/2014**  Mr. Fidler has managed a multi manager CTA portfolio for RQSI (Ramsey Quantitative Systems Inc.) for 10 years. He focuses on niche and emerging managers, and does some “day one” investments. He said they “basically seeded Centurion.” Neil Ramsey, the company’s CEO, was an early investor in Crabel and knew Stefan Behling well. RQSI is no longer invested with Centurion, they were invested from the inception of the strategy in August 2012 through May 2013. Fidler said they had a “fine experience and made money while invested,” but fully redeemed because they had too much exposure to short term traders and thought other managers were better. Fidler doesn’t think they would invest with Centurion again unless their R&D was improved. He added that he continues to monitor their performance which has been “better than most,” and he has been surprised by their success raising money.  Fidler sees Behling as an experienced short term trader who knows what does and doesn’t work, which he sees as a huge edge because there are so few successful short term trading shops and so few dyed in the wool industry veterans. Fidler said that Centurion’s proprietary research platform is a positive for the firm, and he likes that they can analyze a portfolio of models rather than models in isolation. He also added that Centurion is part of the industry trend of going to all cloud based systems and away from in-house servers which older groups are even moving away from now. Regarding weaknesses, he does not think that Behling is “that great at execution”, which Fidler doesn’t think is an issue at the strategy’s current small size, but questions at what point slippage becomes an issue. Fidler said that they were aware of the potential execution issue going into their investment, it was not a surprise, and they knew Behling was not best of breed at execution at Crabel. He also heard from others that the execution at Crabel got better after Behling left.  Fidler does not see a high level of investment risk with Centurion, and while he doesn’t think they are the best manager in the short term trading space he thinks they will do “ok” over the next five years. However, they did come across a “few yellow flags” in terms of business risk. One was that they felt Centurion was overstating Behling’s experience at Crabel in their materials, they discussed this with Umran Zia and the language was later watered down. Another was their belief that there was a “non-zero chance of legal risk should Crabel ever claim that code was taken from them and implemented at Centurion.” He added that he has no reason to believe that Behling stole any of Crabel’s code, and that it would be tough to ever prove. Another business risk is Centurion’s relationship with Jason Leupold, his departure was not amicable and there is some potential for an intellectual property lawsuit given that Jason claims to have helped design the Centurion systems. Jason’s time with Centurion predated RQSI’s investment and from what they understand Jason was not a “key guy”. Fidler closed by saying that he always liked Behling and found him to be an honest, straightforward guy, and that what Behling has built is consistent with his experience.  **Ron Breitigam – 10/28/2014**  Mr. Breitigam spent most of his career as the manager of Eclipse Capital’s 24 hour trading desk, a position he described as very similar to Stefan Behling’s role at Crabel. In this role he knew Umran Zia as an FX prime brokerage customer and knew Behling as a peer within the industry that he used to compare notes with.  He sees Zia as a good salesperson even though Zia doesn’t like that label. He also thinks that Zia has good management skills and noted the minimal turnover on his team at BAML. He believes Zia has a pretty good reputation from his time at BAML and previous FX prime brokerage positions. Regarding weaknesses, he thinks that Zia can have an aggressive posture. For Centurion, he thinks Zia’s presence in New York is a positive. He added that he thinks Zia handled “the whole New York situation well.” When asked to elaborate, Breitigam explained that he believes Zia initially thought that Behling would move to New York to build and run the business from there.  Breitigam said that Behling has a stellar reputation in the futures world. Breitigam saw Behling’s role at Crabel as running trade implementation, not running model development, but he still believes that Behling has experience with model development from his time at Crabel as feedback on the models from the frontlines of trading was built into their process. Also, Breitigam thinks that Behling was highly exposed to model development early on as one of Crabel’s first few employees, but recognizes that may have declined later on. He thinks that a contributing factor to Behling’s departure from Crabel was Behling’s preference for short term strategies and Toby Crabel’s desire to move into longer-term strategies. Breitigam sees the true test of a systematic manager as what they do during a drawdown. He thinks that Behling has done a good job by making small enhancements, has shown that he isn’t stubborn, and has let the strategy evolve. Regarding trade execution and slippage, he noted that Behling has been smart to focus on highly liquid markets and that the strategy has been a mix between being a liquidity provider and liquidity taker, but he thinks slippage could be an issue past $700mm in AUM for this type of strategy.  Breitigam said that he is a big fan of the Centurion team and that both Zia and Behling have been “tried in the fire”; Behling with his successful career at Crabel under a peculiar owner, and Zia with managing a business through 2008, the BAML merger, and handling the exposure to the rogue trader from Baltimore (a reference to John Rusnak, a former currency trader at Allfirst bank would was sentenced to 7½ years in prison in 2003 for hiding US$691 million in losses at the bank in 2002).  Breitigam also helped the Centurion team find a seed partner early on. He recalls the deal in addition to capital included a 10-15% revenue sharing agreement. While he wouldn’t confirm the entity that provided Centurion with seed capital, he said that “Neil” (likely Neil Rasmey, President of Ramsey Quantitative Systems Inc. (RQSI)) has a “volatile personality” and decided to redeem within the first year. Breitigam would not go into further detail on the topic.  **Desmond Werthman – 10/28/2014**  Mr. Werthman manages a fund of funds at Madra Asset Management that currently invests with Centurion. He has allocated to CTAs since 1994. He found Centurion through a friend that used to work at Stark Investments in Milwaukee and knew Behling. He has been invested with Centurion since November 2012, just a few months after the strategy launched. He was not an investor with Crabel, though he did meet with Crabel several times in the past. Werthman works one hour south of Milwaukee, has been onsite with Centurion and had a favorable opinion of the team. He also added that they have been good to work with from a client’s perspective.  Werthman views the risks within the short term trading space as managers that stop doing research and managers that are really just short term trend followers which won’t help you when it is need most - when trend strategies are down. With Centurion, he watches the daily interaction with trend following strategies and does see the diversification benefits.  Centurion is one of his larger allocations and they run the account 1.25x to 1.4x levered. He said that the program’s 6% volatility target is just too low, but he “gets it, they get the most fees that way”. July 2013, the strategy’s worst month, still stands out to him. He saw the strategy decline sharply late in the month, but noted that other short term traders were challenged then as well. Following the negative performance that month, Centurion added a volatility filter with the intention of reducing future downside risk. Werthman initially thought it would also reduce the upside of the program. He has continued to ask the Centurion team about it, and they say it hasn’t affected the upside. Werthman said he hasn’t found hard evidence that it has or has not limited the upside.  **Steve Brechtel – 10/29/2014**  Mr. Brechtel worked for Stefan Behling as a trader at Crabel from 2004 to 2009. He recalls that Behling managed 22 or 23 people as Director of Trading of the 24 hour trading desk. Brechtel was the Asia shift manager, reported directly to Behling, and had four traders working for him. He said that Behling was very hands on with all of the shift managers and that Behling would call in almost nightly during the Asia shift. Behling also required weekly in-person meeting, which he said is very different from other managers he has worked for who do everything over the phone with the Asia shift. Brechtel also worked on the trade automation project with Behling, and said that Behling gave him full ownership of the project but still required updates every two weeks. He never saw Behling as a micro manager, and appreciated his interest in what was going on. Brechtel saw the trader role at Crabel was a unique blend of trading and research. Behling and Alden (likely Alden Melbourne – Crabel’s Director of Research) oversaw the process between the traders and the research department, though he saw Alden as the real “policeman” of the process. Brechtel also worked with Bill Tiedt, Centurion’s Global Head of Trading, at Crabel. He recalls that Tiedt was manager of equities at Crabel and was a very good, well respected guy.  Regarding Behling’s departure from Crabel, Brechtel said that Crabel was used like an ATM during 2008 and Behling was let go during the first round of layoffs at Crabel in 2009. Brechtel said he never would have expected Behling to be laid off and suspected that Toby Crabel was letting go some of the highest paid people. Of Toby Crabel, he said that you can’t trust him, but he comes off as your best friend.  When asked if he had any reason to believe that Behling would have taken any code from Crabel, Brechtel said that he couldn’t have taken anything since he was let go out of the blue and that Crabel’s HR was constantly policing email. He said that a lawsuit may have been possible in 2010, but he thinks that Toby has probably moved on, also around the industry intellectual property lawsuits aren’t likely after one year. He sees Behling as a loyal and honest person.  Brechtel also worked with Jason Leupold at Crabel and still considers him a loose personal friend. Two years ago Leupold told Brechtel that Behling had cut him off, took his strategies and ran. Brechtel has also talked to Behling about the situation and Behling told him that nothing ever happened, but they did meet at a coffee shop regularly. Brechtel said that the strategies Leupold created at Crabel never really worked, couldn’t cover slippage, and were eventually phased out. He thinks Leupold suffers from “delusions of grandeur” and is now bothered by Centurion’s success. He also remembered a time that Leupold got in trouble at Crabel for calling in an S&P trade from a bar on his cell phone on an unrecorded line. Brechtel added that Leupold was eventually laid off for not doing his work and his team said that they would rather do their job with one less person. In closing he said, Leupold “is kind of a joke.”  **Kathryn Daley – 11/4/2014**  Ms. Daley was the President and COO of Crabel Capital Management from 2001 to 2011. Daley said that she does not typically do reference calls for Stefan Behling. She began by noting that there was court case between Behling and Crabel after his departure. She believes that Crabel should not have lost the case and noted that it is very challenging for employers in Wisconsin to win such cases. Regarding Behling time at Crabel prior to 2009, she said that he was “not involved in research at all” and was the firm’s Head of Trading with a focus on execution. When asked if he sat on the firm’s research committee, she said that everyone in firm could attend the committee’s meetings. Regarding his departure from Crabel in 2009, Daley said that the firm as a whole needed to make big changes, they didn’t feel Behling was the right person to lead those changes, and Behling was part of the first round of layoffs for trading desk personnel. She felt that the firm was moving towards automated trade execution systems and Crabel needed people with the right technical ability to oversee such systems. She recalls that in 2009 Toby Crabel looked to retain individuals with a research focus and the right technical ability. She said she had no comment on way or the other on Behling as a professional. She suggested we speak with Jason Leupold, and admitted to not knowing the facts, but heard that he worked with Behling after leaving Crabel, that their relationship ended badly, and there were claims of dishonesty. Daley said she had an overall good impression of Mr. Leupold and noted that he was not a part of the firm’s first round of layoffs as Behling was. | | |
| Litigation | | | Centurion has not been involved in any litigation, but Stefan Behling was involved past litigation against his former employer, Crabel Capital Management, in December 2010 regarding past due deferred compensation. The legal matter was resolved in court and Stefan Behling won in a jury trial.  On November, 6, 2014 Stefan Behling made reference to the Hatteras team that he was working with Centurion’s attorney to file a cease and desist order against Jason Leupold in the near future. | | |
| Offices | | | Brookfield, WI: Trading and research are run out of the Wisconsin office. Stefan Behling, 4 traders, and 3 research analysts are based in the Wisconsin office.  New York, NY: Operations and marketing are run out of the New York office. Umran Zia, 2 software developers, and 1 trade support specialist are based in the New York office. | | |
| Assets | | | Assets under management as of September 30, 2014:  Firm: $180million ($170mm in 14 managed accounts, $10mm in fund) | | |
| Investor Base | | | As of September 30, 2014, Centurion’s investor base consisted of the following:  67% FoF, 16% Institutional, 10% Family Office, 7% Internal | | |
| Systems | | | Centurion uses Alpha Technology Services to provide cloud computing, there are no servers on site. The research platform, signal generator, and order management were built internally using C-sharp programming. CQG is the primary global market data source; secondary sources are tickdata.com and Bloomberg. | | |
| Disaster Recovery | | | Centurion uses Alpha Technology Services to provide cloud computing. This service includes full back-up at multiple locations and was most recently tested during Hurricane Sandy when service was switched to a secondary location and Centurion did not experience disruptions in trading. The Brookfield, Wisconsin office is currently leased through Regus Properties, who would offer alternatives in the event that the current space is inaccessible. In addition, each Centurion employee is able to access the firm’s systems from their home computer or laptop.  Centurion has a comprehensive disaster recovery plan in place. The plan addresses all issues with regard to IT, communications, temporary or permanent loss of office space, death or incapacitation of senior management, technical failures with all service providers and test procedures.   * Computer system fail: In the short term trade execution can be managed by telephone while the investment management computer system failure is resolved. Spare PCs are kept onsite and can be swapped in a matter of minutes. * Incapacitated investment decision makers: All positions are immediately liquidated. * Technical failure at prime broker’s location: Fall to Prime Broker’s disaster recovery site, or work remotely from home connecting to disaster recovery site. * Viral outbreaks: Symantec Endpoint Protection runs and would report any viral outbreaks that start getting out of control. Centurion would move over to its Disaster Recovery plan, and then remove the infected machines off the network. | | |
| *Concerns* | | | Regarding Centurion’s relationship with Jason Leupold, it appears Centurion is taking the appropriate legal actions against Mr. Leupold. | | |
| Service Providers | | | | | |
| Legal | | | Katten Muchin Rosenman LLP  Contact: Ross Pazzol  525 W. Monroe Street  Chicago, IL 60661-3693  Phone: (312) 902-5554  Email: ross.pazzol@kattenlaw.com  Since Inception | | |
| Accounting/Audit | | | Arthur Bell, Certified Public Accountants  Contact: Alex Cummings  201 International Circle, Suite 400  Hunt Valley, MD 21030  Phone: (410) 771-0001  Email: Alex.Cummings@arthurbellcpas.com  Since Inception | | |
| Brokers | | | Jefferies Bache, LLC  Contact: Carlos Cabrera  520 Madison Avenue 4th Floor  New York, NY 10022  Phone: (212) 778-8790  Email: ccabrera@jefferies.com  Since Inception | | |
| Administrator | | | NAV Consulting, Inc.  Contact: Manish Saraf  2625 Butterfield Rd. Suite 208W  Oak Brook, IL 60523  Phone: (630) 954-1919  Email: manish.saraf@navconsulting.net  Since Inception | | |
| *Concerns* | | | None | | |
| Investment Process | | | | | |
| Investment Philosophy | | Centurion’s short term trading program is 100% systematic and executes trades using momentum and mean reversion models with holding periods ranging from a few hours to 2 days and averaging 6 hours. Centurion seeks to identify and capitalize on observed market behavior which persists through time while overlaying comprehensive risk management. The team believes that investment ideas and strategies are best sourced from trading desks, and not from theoretical views of the markets. The strategy aims to generate attractive risk adjusted returns while maintaining low correlation to both traditional and other alternative asset classes.  Centurion is committed to short term trading as a means of generating alpha and believes the case for short term trading strategies has continued to strengthen over time. Centurion believes short term trading strategies have benefitted from the increase in trading speed and more rapid dissemination of market information with the shift from open outcry to electronic trading, and then further benefitted from the change in liquidity with banks exiting proprietary trading after 2008. The decline of bank proprietary trading has reduced the amount of capital seeking to arbitrage away short term pricing discrepancies. In recent years the liquidity has shifted to high frequency traders causing market moves to occur in even shorter time periods. | | | |
| Investment Process | | Centurion’s short term trading program generates trading signals using momentum and mean reversion models. Centurion models are proprietary trading rules, are built independently of one another, and are designed to have a low correlation to each other and the overall portfolio. Price data is the only input for all models, no fundamental data is used. All models trade across all markets, and no models have a long or short bias. When the strategy launched in August of 2012, there were 29 models, and the number of models has grown to 78 as of September 2014. Approximately 70% of the models are momentum strategies and 30% are mean reversion strategies, and this ratio has been little changed as the number of models has grown. Centurion also expects the ratio of momentum and mean reversion models to stay consistent in future as the team believes that the markets offer more momentum trading opportunities, and mean reversion models tend to be more correlated and have larger drawdowns. The program is under constant evaluation and is expected to evolve with ongoing, market driven research.  Centurion uses proprietary systems to generate entry and exit signals. All trades have predetermined stop loss, profit taking and time based exit rules. Stops are calculated based on trailing 10-day average volatility, and if a stop is reached the entire position is closed. Since inception, approximately 60% of trades are timed out, 20% reach profit target, and 20% are stopped out. 57% of trades have been profitable during live trading through September 30, 2014.  Models  Centurion’s momentum models are long volatility and seek to benefit from directional price movements (divergence).  **Intraday Momentum:** 14 total models  Breakout: 9 models. A trade is entered when the price hits a specific level (high/low) of the previous period (intraday/daily), the trade will be in the same direction as the new high or low.  Volatility Breakout: 4 models. A trade is entered when the price moves a certain percentage from the trailing price range over X-days, the trade will be in the same direction as that price move.  Pattern Recognition: 1 model. All other intraday momentum trades.  **1-2 Day Momentum:** 40 total models  Pivot: 10 models. A trade is entered when the price moves outside of a support or resistance level over the preceding X-days, the trade will be in the same direction as that price move.  Regression Analysis: 7 models. A trade is entered using past prices to forecast future price movement.  Breakout: 6 models. A trade is entered when the price hits the high or the low of the preceding X-days, the trade will be in the same direction as the new high or low.  Volatility Breakout: 6 models. A trade is entered when the price moves a certain percentage from the trailing price range over X-days, the trade will be in the same direction as that price move.  Bollinger Bands: 4 models. A trade is entered in the same direction of an overbought or oversold indicator based off of the volatility of a market over the preceding X-days.  Moving Averages: 4 models. A trade is entered based off a signal from one or more moving averages (with varying look back periods), the moving averages can indicate support or resistance, and the crossing of certain moving averages can indicate a directional trade.  Gap: 1 model. A trade is entered due to a price gap (open price higher or lower than previous days close), the trade will be in the same direction as the price gap.  Pattern Recognition: 2 models. All other >1 day momentum trades.  Centurion’s mean reversion models are short volatility and seek to benefit from reversals and choppy price movements (convergence).  **Intraday Mean Reversion:** 4 total models  Volatility Reversal: 2 models. A trade is entered in the opposite direction of expanding or contracting volatility over the preceding period (intraday/daily).  Oscillator: 2 models. A trade is entered in the opposite direction of an overbought or oversold indicator based off of the strength of up and down moves over the preceding X-days.  **1-2 Day Mean Reversion:** 19 total models  Moving Averages: 8 models. A trade is entered based off a signal from one or more moving averages (with varying look back periods), the moving averages can indicate support or resistance, and the crossing of certain moving averages can indicate a reversal.  Volatility Reversal: 4 models. A trade is entered in the opposite direction of expanding or contracting volatility over the preceding X-days.  Gap: 1 model. A trade is entered due to a price gap (open price higher or lower than previous days close), the trade will be in the opposite direction as the price gap.  Pattern Recognition: 6 models. All other >1 day reversal trades.  Trade Allocation  Centurion’s allocation to models is determined by the number of models and Sharpe ratio analysis. As the total number of models increases within the portfolio, the amount of risk in a “full allocation” for a model decreases. Centurion also uses the “Pattern Multiplier” process to systematically adjust models’ allocations based off of their trailing 2-year Sharpe ratio. The Pattern Multiplier will adjust allocations when the trailing 2-year Sharpe ratio is:   * >1, increase allocation up to 50% above full allocation. * 0 to +1, receives full allocation. * 0 to -0.5, linearly reduce allocation (-0.1 is 20% reduction, -0.2 is 40% reduction, -0.3 is a 60% reduction, -0.4 is an 80% reduction). * < -0.5, models are temporarily removed and are not added back until the Sharpe ratio improves above -0.5. Typically less than 10 models are removed from the program at any given time.   Centurion chose 2-years as the Sharpe ratio’s look back period because it is long enough to provide a meaningful number of observations, but is still short enough that underperforming strategies are removed in a timely manner. Sharpe analysis is run weekly using live data and model allocations are also adjusted on a weekly basis.  Trade Execution  Centurion uses the same trading methodology for all markets; order execution is fully automated using proprietary and third-party algorithms. Centurion maintains a 24-hour trading desk out of Wisconsin office with 1-2 traders on each shift. At Centurion, the trader’s functions include: monitoring trade execution, creating and improving current trade execution algorithms, monitoring and tracking slippage, maintaining broker relationships, and research/strategy development. Trade breaks are identified, reconciled, and resolved the next day. Trades are “crossed” when possible to minimize trading and execution costs. The market impact of trade execution and slippage are continuously monitored in real-time.  The Centurion program will average 6,000 round-turns traded per $1 million per year; a level that is higher than most short term traders, but is consistent with Centurion’s shorter than average holding period. Centurion will execute approximately 300 trades in each market per year. Trading frequency typically remains constant across both profitable and unprofitable periods. During unprofitable periods, the program will reduce model allocations. Average annual commissions are approximately 2%. Given the short term nature of the strategy, trading cost and slippage are of high importance.  Centurion monitors slippage with daily, weekly and monthly reports, which calculate slippage by market, strategy and exit type. Centurion defines slippage as the difference between the hypothetical entry or exit price and the actual fill price. Centurion seeks to keep slippage under 3% of a market’s 10-day average trading range. The team has experience managing the market impact of larger systematic strategies, and market impact it is not a concern at Centurion’s current AUM.  Research  Centurion is continually looking for ways to improve the current trading strategies, enhance trading techniques, and develop new trading strategies. All research is developed and tested using the firm’s proprietary research platform. The research process is team based and involves all facets of the investment team including the CIO, research analysts and traders. In addition to providing human oversight of automated trading systems, Centurion’s traders are responsible for continually providing feedback on existing models and coming up with ideas for new models which the research analysts attempt to validate using the firm’s proprietary software.  New trading ideas are based off of repeated market observation that is then formulated into a specific quantitative formula. These ideas must be robust across all asset classes. New trading ideas are verified though back testing using in-sample data to confirm hypotheses and optimize models, and out-of-sample data to confirm in-sample results and reduce over fitting. If results are consistent both in and out-of-sample, the trading idea may be considered for addition within the program.  A validated model will not be added if the correlation to the portfolio is > 0.35. When evaluating a new model they also analyze slippage and how much the new model is cannibalizing from the existing models. New models are introduced at lower allocations until live results confirm testing.  All of Centurion’s traders either worked for the CIO at his previous firm or were trained in-house. Centurion believes that well trained traders can identify patterns in the market and generate trading ideas to exploit such patterns, allowing the strategy to adapt to the ever changing market environment and avoid stagnation.  Centurion is expecting to implement five new trading models by year end 2014, which would bring the total number of models to 83. The team believes that the total number of models could grow to 150 over time. | | | |
| Risk Management | | Centurion’s risk management is embedded within the portfolio construction process, as all trades have predetermined stop loss, profit taking and time based exit rules, and model allocations are determined by a systematic process that evaluates each model’s trailing 2-year Sharpe ratio.  To avoid spurious signals, trading is briefly paused during specific economic announcements while models continue to run. For example, trading in interest rate markets is paused during the US non-farm payroll announcement. No new trades are entered 5-minutes before/after the economic announcements.  Centurion uses an overlay to delever the program when 10-day volatility shrinks on a basket of the most traded futures contracts. Depending on the level of short term volatility the program can be delevered from 5% to 25%. The reduction is linear as volatility level declines. This overlay was implemented following July 2013, which has stood as the program’s worst month since inception.  Centurion has systematic daily risk limits at the market, sector and portfolio level; (at 1x) market risk is limited to 37 bps per day, sector risk is limited to 100 bps per day, and portfolio risk is limited to 270 bps per day at which point no new trades are put on. The program will systematically limit exposure so that if all positions were stopped out, losses would remain within the daily market, sector, and portfolio risk limits. These risk limits are intended to reduce tail risk and extended drawdowns, and are reevaluated every six months.  Regarding risk limits at the “sector” level, Centurion focuses on “correlated sectors,” dynamic groups of correlated markets using a 10-day look back. The process begins with traditional asset class groups, but can move markets outside of their traditional asset classes if short term correlation exceeds a threshold level. For example, gold could be included with interest rates if the trailing correlation is high enough.    In addition to the daily risk limits the program also has an internal performance circuit breaker (for 1x) at a 10% monthly loss. At this level Centurion overrides the system and removes all positions.  In circumstances similar to 9/11, trading would be halted to evaluate the event’s impact on the models. This decision will only be made by the CIO. | | | |
| Trade Example | | Successful Trade: Momentum (E-mini S&P)    Consolidation environment setup. Over the 10-day look back period prior to the trade, the S&P 500 was trading in a tight range and consolidating. After a confirmation of momentum, as represented by an upward move in excess of 80% of the trailing 10-day average trading range, a long position was initiated and held until it reached its predetermined price target the next day. The signal in this model works symmetrically so if the S&P 500 would have had a move of the same magnitude to the downside a short position would have been initiated.    Successful Trade: Mean Reversion (Euro Currency)    After three consecutive days of upward movement and expanding volatility, the Euro gapped higher on the fourth day and a short position was initiated, the position was held until its predetermined time limit (the next day’s open) and exited at a profit. The Euro did move lower for the next two days, but these moves were not within the model’s time frame and were not considered missed opportunities.    Unsuccessful Trade: Momentum (Crude Oil)    Crude oil traded in a tight range during the current day (morning), and the model was looking for volatility to increase. Two hours after the open, volatility spiked and the price reached a new high over the model’s look back period, triggering a long position to be initiated. Momentum failed and the market reversed in a V-shaped pattern after the trade was initiated. The long position was stopped out intraday. | | | |
| Concerns | | Centurion’s traders appear to have a higher level of importance than traditional execution traders at other CTAs, special attention should be paid to any future turnover at this position. | | | |
| Portfolio | | | | | |
| Securities | | 100% exchange traded futures | | | |
| Position Sizing | | Position size is a function of the allocation to the model that generated the trade. Models’ allocations are determined their 2-year trailing Sharpe ratio. | | | |
| Sectors | | Equity Indices, Interest Rates, Commodities, Currencies | | | |
| Markets | | Equity Indices:  AEX, CAC 40, DAX, E-mini Dow Jones, E-mini NASDAQ 100, E-mini Russell 1000, E-mini S&P 500, E-mini S&P Mid Cap 400, Euro Stoxx 50, FTSE 100, Hang Seng Index, H-Shares, MSCI Taiwan, Nikkei 225,  SPI 200 Index, Swiss Market Index, Topix Index  Interest Rates:  U.S. 5-Year Note, U.S. 10-Year Note, U.S. 30-Year Bond, Bobl, Bund,  Long Gilt, Japanese 10 Year Bond  Commodities:  Brent Crude, Cocoa, Coffee, Corn, Cotton, Crude Oil, Gas Oil, Gold, Heating Oil, High Grade Copper, Live Cattle, Lean Hogs, Natural Gas,  RBOB, Silver, Soybeans, Soybean Meal, Sugar #11, Wheat  Currencies:  Aussie Dollar, British Pound, Canadian Dollar, Dollar Index, Euro, Japanese Yen, Mexican Peso, New Zealand Dollar, Swiss Franc | | | |
| Exposures | | Margin to equity based on live trading data through 9/30/2014 (at 1x): Highest: 9.00%, Lowest: 0.00%, Average: 2.29%  Typically, 50% of positions are flat by the close thus limiting overnight margin requirements. | | | |
| Liquidity | | Daily liquidity. Markets in the program must be traded electronically and have average daily volume of >10,000 contracts. | | | |
| Days to Liquidate Entire Portfolio | | One day | | | |
| Pricing | | All contracts are exchange listed with readily available market prices. | | | |
| *Concerns* | | Slippage should continue to be monitored as AUM grows. | | | |
| Partnership Terms: | | | | | |
| Minimum Investment | | Fund: USD 1 million, EUR 1 million, GBP 500,000  For a managed account, $10mm is suggested to avoid tracking error. | | | |
| Redemptions | | Monthly with 30 days notice | | | |
| Subscriptions | | Monthly with business 3 days notice | | | |
| Fees | | 1% management fee paid monthly for 1X product (6% target vol).  2% management fee paid monthly for 2X product (12% target vol).  20% performance fee paid quarterly for both 1X and 2X products. | | | |
| High Water Mark | | Yes, no hurdle rate | | | |
| Lock Up | | None | | | |
| Concerns | | None | | | |
| PERFORMANCE ANALYTICS | | | | | |
| The Centurion Short Term Trading strategy (with a 10% volatility target and net of 1% management fees) launched in August 2012. The strategy has generated an annualized return of 13.4% since August 2012 through September 2014 compared to an annualized return of 20.5% for the S&P 500, -4.0% for the HFRX Macro- Systematic Diversified CTA Index. Standard deviation of Centurion’s returns has been at 7.9% since inception versus 8.4% for the S&P 500, 3.7% for the HFRX Macro- Systematic Diversified CTA Index. The strategy has generated attractive risk adjusted returns since inception with correlation of -0.62 and beta of -0.57 to the S&P 500 and correlation of 0.11 and beta of 0.24 to the HFRX Macro- Systematic Diversified CTA Index. The strategy has generated annualized alpha of 2.0% over the S&P 500 and 1.2% versus the HFRX Macro- Systematic Diversified CTA Index.      A review of the Centurion program’s daily gross returns shows a larger max drawdown relative to what is seen using monthly returns. From 6/26/2013 through 8/62013, the program reached a drawdown of -6.98%. This drawdown is within the expectations for a strategy with an annualized volatility target of 10%.    The review of the daily gross returns also shows that volatility has typically remained below the 10% target over time, but briefly exceeded this level during the max drawdown. | | | | | |